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3. **COURSE: FAST TRACK PYTHON**

**Explain three-dimensional data indexing.**

**ANS:** **“Three-dimensional array uses three indexes” is true.**

**Reasons**:

A two-dimensional array is explained as : an array of arrays.

**A three-dimensional (3D)array is defined as**array of arrays of arrays.

In C programming an array can posses multi dimension like  two, three, or even more number of dimensions.

The maximum dimensions a C program may depend  on which compiler it  is being used.

**Example**:

1) A three-dimensional array can be used to store exam scores for a class of 6 students with 5 exams.

2) And each exam has double number parts namely, multiple-chose and essay.

1. **What's the difference between a series and a dataframe?**

**ANS:** Series is a type of list which can take integer values, string values, double value and more. Series can only contain single list with index, whereas dataframes can be made of more than one series or we can say that a dataframes is a collection of series that can be used to analyse the data.

**3. What role does pandas play in data cleaning?**

**ANS:** Pandas is the popular Python library that is mainly used for data processing purposes like cleaning, manipulation, and analysis.

**4. How do you use pandas to make a data frame out of n-dimensional arrays?**

**ANS:**

1. import pandas as pd # Create the dataframe df = pd.DataFrame(numpy\_array)
2. df = pd.DataFrame(numpy\_array, columns=['digits', 'words']) ...
3. df = pd.DataFrame(numpy\_array, index=['day1', 'day2', 'day3', 'day4'], columns=['digits', 'words'])
4. **Explain the notion of pandas plotting.**

**ANS:** Matplotlib is a Python plotting package that makes it simple to create two-dimensional plots from data stored in a variety of data structures including lists, numpy arrays, and pandas dataframes. Matplotlib uses an object oriented